Outbreak of Human Buffalopox Infection

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ABSTRACT

An outbreak of febrile illness with vesicular lesions on hands and forearms of six persons was investigated. There was simultaneous outbreak of similar illness in buffaloes that were milked by these persons. Buffaloes had lesions on many parts of body including udder and teats. Manual milking without gloves exposed the persons to the infection. Investigations proved that both the outbreaks were due to buffalopox virus infection. Improved dairy practices like wearing gloves while milking might help in prevention of spread of infection to other animals and humans.

Key words: Buffalo-pox, Human infection, Zoonosis

INTRODUCTION

We, as medical doctors, hardly ever come across rare zoonoses, such as buffalopox. We here report an outbreak in our area that affected buffaloes and humans simultaneously in an attempt to increase this awareness. We also wish to emphasize good dairy hygiene practices.

An owner of a buffalo herd and five of his assistants at the farm had vesicular and pustular lesions on hands, legs, and feet. The buffaloes had similar lesions as well.

According to the owner, 10 new buffaloes were bought from a distant market, all of whom were healthy at the time of purchasing. All 10 of the newly introduced buffaloes developed skin lesions within a week. Subsequently, 30 other buffaloes developed lesions in the next 10-15 days.

Five of the farm workers, all involved in milking buffaloes, were affected by the disease. Here, manual milking with bare hands is the practice.

The history of human illness revealed that affected individuals had one to five lesions on hands, forearms, and legs [Figure 1]. Lesions in the farm workers appeared within seven days of appearance of illness in the buffaloes. The lesions progressed from macules to papules, vesicles, and pustules over the next three to five days. They had fever (39 to 40°C), malaise, body ache, and loss of appetite. All five workers were unable to perform routine work, including milking. The lesions healed after 8-10 days, but scabs fell off only after about three weeks.

Figure 1: Lesion of buffalo pox on hand of a milker

All five patients were investigated. Bacteriological study did not yield any organism. Virological study confirmed that the humans and buffaloes were infected by buffalopox virus (BPXV). The tests carried out included antigen detection, Polymerase chain reaction (PCR)

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positivity and isolation of BPXV from the lesions or antibodies in serum.

Buffalopox is a viral disease of economic importance primarily affecting domestic buffaloes (*Bubalus bubalis*). The BPXV belongs to genus *Orthopoxvirus*–a member of family Poxviridae–and is closely related to vaccinia virus (VACV).[1,2] Buffalopox is an emerging contagious viral Zoonosis. It is frequently encountered in countries where buffaloes are reared as milch animals. The milk production and working capacity of the affected animals reduces. It can also be transmitted to humans. Such outbreaks have been reported from various parts of the world and India.[3-5]

In India, even now small and medium herd owners prefer manual milking. The milkers wash hands with soap and water before milking; however, the practice of using gloves while milking is almost nonexistent. This is probably responsible for the spread of infection from infected buffalos to the uninfected ones.

In conclusion, we believe that clinicians must be aware of the fact that pustular skin lesions that not yield bacteria might be of viral origin, and need to be investigated from that perspective also. With regard to dairy practices, awareness about the use of gloves, at least while milking infected buffalos of paramount importance, and should be emphasized.

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